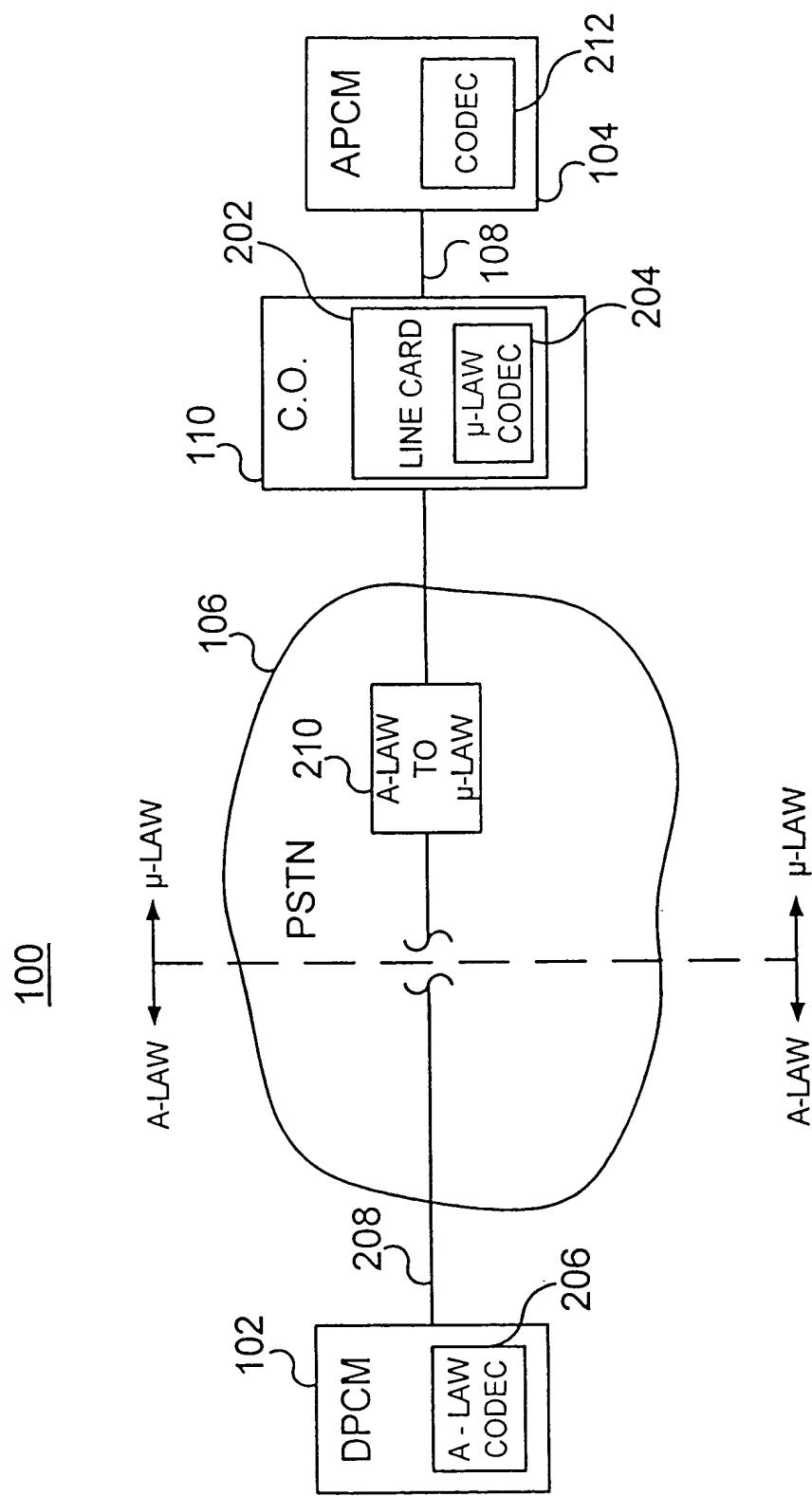
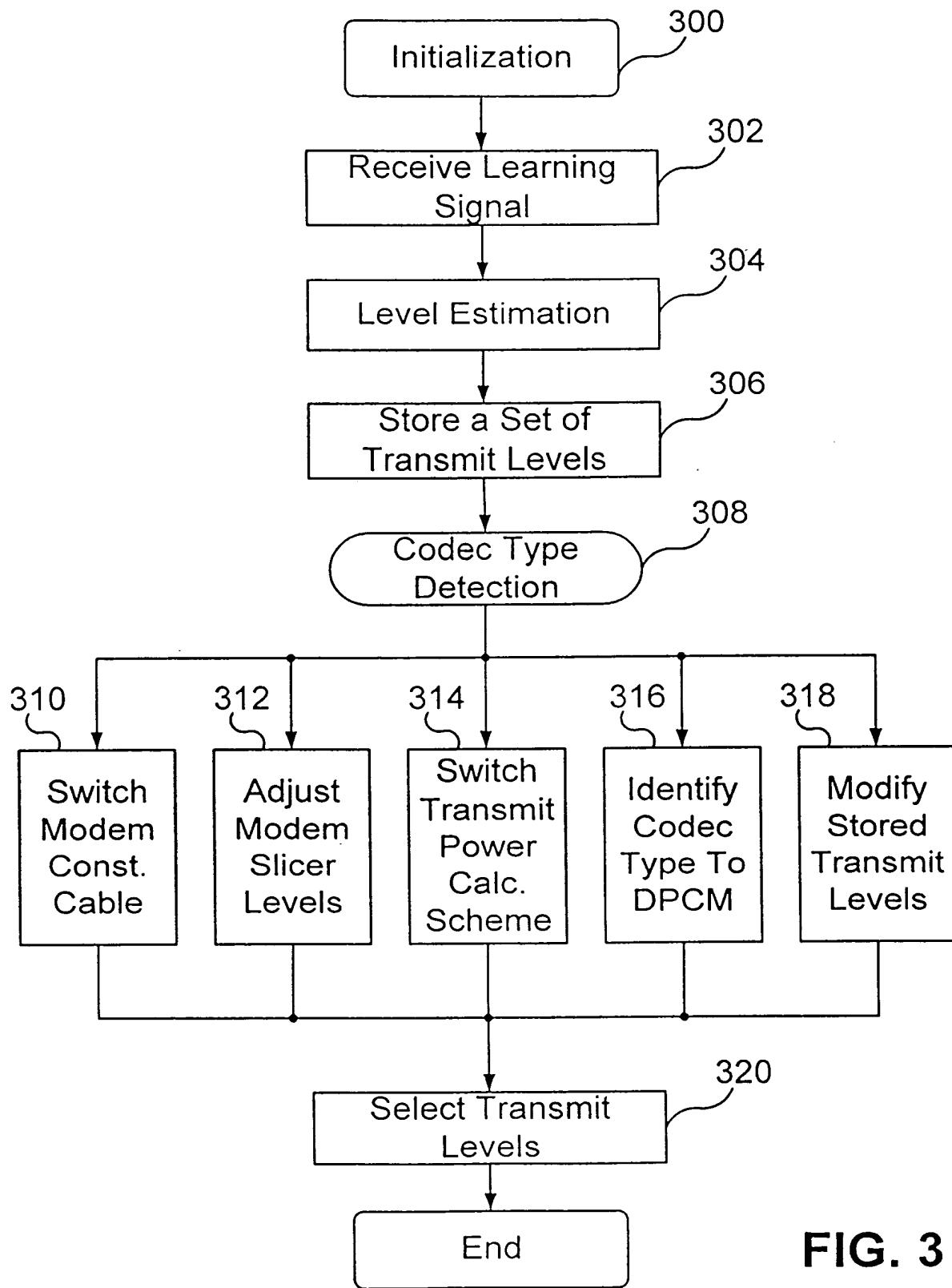


FIG. 1  
(PRIOR ART)

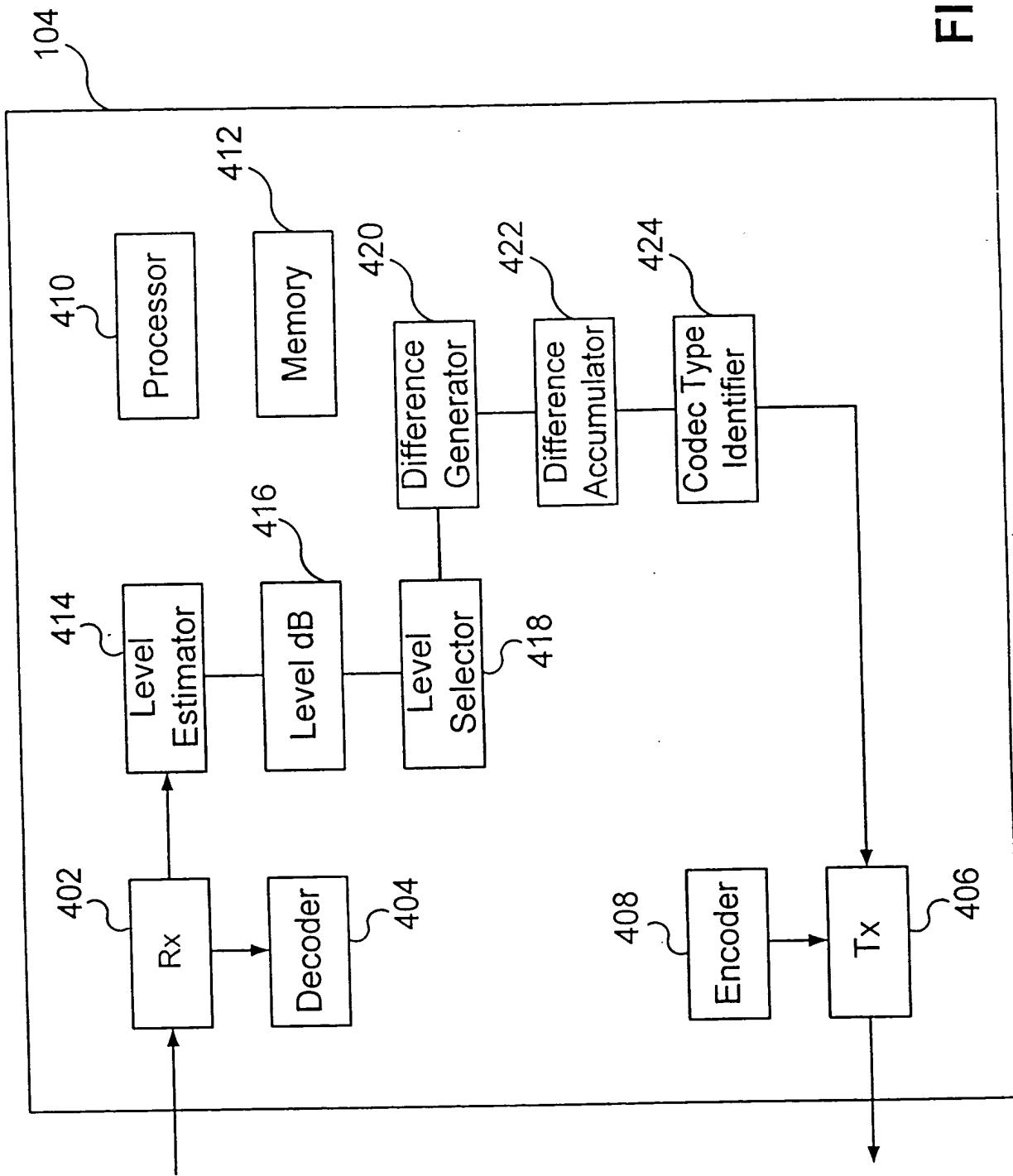


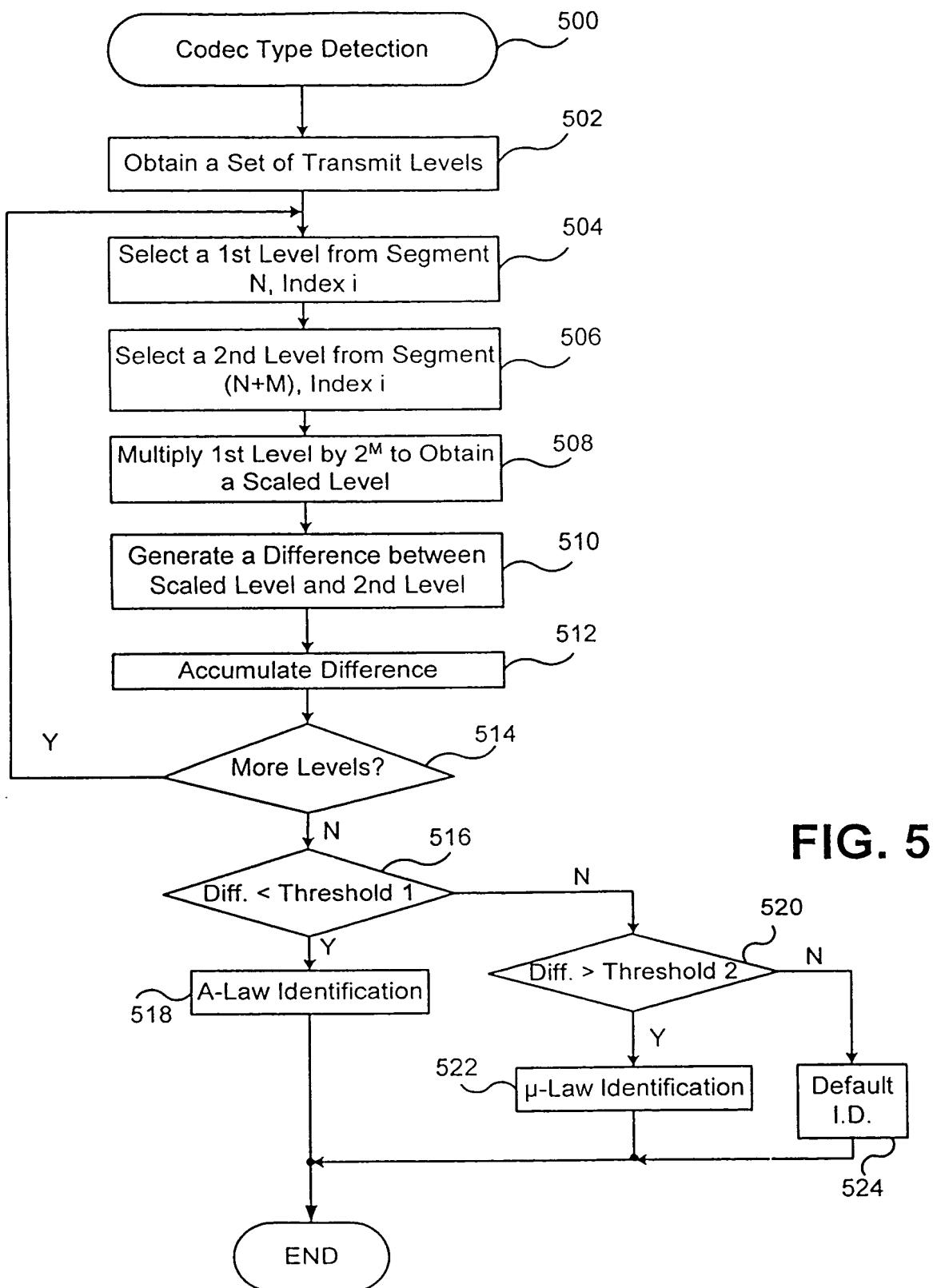
**FIG.2**  
**(PRIOR ART)**



**FIG. 3**

FIG. 4





**FIG. 5**

FIG. 6-1

The universal set of PCM codewords				
Ucode	$\mu$ -law PCM	$\mu$ -law linear	A-law PCM	A-law linear
0	0	FF	0	D5
	1	FE	8	D4
	2	FD	16	D7
	3	FC	24	D6
	4	FB	32	D1
	5	FA	40	D0
	6	F9	48	D3
	7	F8	56	D2
	8	F7	64	DD
	9	F6	72	DC
	10	F5	80	DF
	11	F4	88	DE
	12	F3	96	D9
	13	F2	104	D8
	14	F1	112	DB
1	15	F0	120	DA
	16	EF	132	C5
	17	EE	148	C4
	18	ED	164	C7
	19	EC	180	C6
	20	EB	196	C1
	21	EA	212	C0
	22	E9	228	C3
	23	E8	244	C2
	24	E7	260	CD
	25	E6	276	CC
	26	E5	292	CF
	27	E4	308	CE
	28	E3	324	C9
	29	E2	340	C8
2	30	E1	356	CB
	31	E0	372	CA
	32	DF	396	F5
	33	DE	428	F4
	34	DD	460	F7
	35	DC	492	F6
	36	DB	524	F1
	37	DA	556	F0
	38	D9	588	F3
	39	D8	620	F2
	40	D7	652	FD
	41	D6	684	FC
	42	D5	716	FF
	43	D4	748	FE
	44	D3	780	F9
3	45	D2	812	F8
	46	D1	844	FB
	47	D0	876	FA
	48	CF	924	E5
	49	CE	988	E4
	50	CD	1052	E7
	51	CC	1116	E6
	52	CB	1180	E1
	53	CA	1244	E0
	54	C9	1308	E3
	55	C8	1372	E2
	56	C7	1436	ED
	57	C6	1500	EC
	58	C5	1564	EF
	59	C4	1628	EE
	60	C3	1692	E9
	61	C2	1756	E8
	62	C1	1820	EB
	63	C0	1884	EA
2016				

The universal set of PCM codewords				
Ucode	$\mu$ -low PCM	$\mu$ -low linear	A-low PCM	A-low linear
64	BF	1980	95	2112
65	BE	2108	94	2240
66	BD	2236	97	2368
67	BC	2364	96	2496
68	BB	2492	91	2624
69	BA	2620	90	2752
70	B9	2748	93	2880
71	B8	2876	92	3008
72	B7	3004	9D	3136
73	B6	3132	9C	3264
74	B5	3260	9F	3392
75	B4	3388	9E	3520
76	B3	3516	99	3648
77	B2	3644	98	3776
78	B1	3772	9B	3904
79	B0	3900	9A	4032
80	AF	4092	85	4224
81	AE	4348	84	4480
82	AD	4604	87	4736
83	AC	4860	86	4992
84	AB	5116	81	5248
85	AA	5372	80	5504
86	A9	5628	83	5760
87	A8	5884	82	6016
88	A7	6140	8D	6272
89	A6	6396	8C	6528
90	A5	6652	8F	6784
91	A4	6908	8E	7040
92	A3	7164	89	7296
93	A2	7420	88	7552
94	A1	7676	8B	7808
95	A0	7932	8A	8064
96	9F	8316	B5	8448
97	9E	8828	B4	8960
98	9D	9340	B7	9472
99	9C	9852	B6	9984
100	9B	10364	B1	10496
101	9A	10876	B0	11008
102	99	11388	B3	11520
103	98	11900	B2	12032
104	97	12412	BD	12544
105	96	12924	BC	13056
106	95	13436	BF	13568
107	94	13948	BE	14080
108	93	14460	B9	14592
109	92	14972	B8	15104
110	91	15484	BB	15616
111	90	15996	BA	16128
112	8F	16764	A5	16896
113	8E	17788	A4	17920
114	8D	18812	A7	18944
115	8C	19836	A6	19968
116	8B	20860	A1	20992
117	8A	21884	A0	22016
118	89	22908	A3	23040
119	88	23932	A2	24064
120	87	24956	AD	25088
121	86	25980	AC	26112
122	85	27004	AF	27136
123	84	28028	AE	28160
124	83	29052	A9	29184
125	82	30076	A8	30208
126	81	31100	AB	31232
127	80	32124	AA	32256

FIG. 6-2

0 } 4 } 5 } 6 } 7 }

A-low, positive input values

1	2	3	4	5	6	7	8
Segment number	Number of intervals x interval size	Value of segment end points	Decision value number $n$	Decision value $x_n$ (see Note 1)	Character signal before inversion of the even bits	Quantized value (value at decoder output) $y_n$	Decoder output value number
					Bit number 1 2 3 4 5 6 7 8		
7	16 x 128	4096	(128)	(4096) - - - - -	1 1 1 1 1 1 1 1	4032	128
6	16 x 64	2048	127	3968	(see Note 2)		
5	16 x 32	1024	113	2176	1 1 1 1 0 0 0 0	2112	113
4	16 x 16	512	112	2048	(see Note 2)		
3	16 x 8	256	97	1088	1 1 1 0 0 0 0 0	1056	97
2	16 x 4	128	96	1024	(see Note 2)		
1	32 x 2	64	81	544	1 1 0 1 0 0 0 0	528	81
			80	512	(see Note 2)		
			65	272	1 1 0 0 0 0 0 0	264	65
			64	256	(see Note 2)		
			49	136	1 0 1 1 0 0 0 0	132	49
			48	128	(see Note 2)		
			33	68	1 0 1 0 0 0 0 0	66	33
			32	64	(see Note 2)		
			1	2	1 0 0 0 0 0 0 0	1	1
			0	0			

FIG. 7

FIG. 8

 $\mu$ -A conversion

$\mu$ -law Decoder output value number	A-law Decoder output value number	$\mu$ -law Decoder output value number	A-law Decoder output value number
0	1	44	41
1	1	45	42
2	2	46	43
3	2	47	44
4	3	48	46
5	3	49	48
6	4	50	49
7	4	51	50
8	5	52	51
9	5	53	52
10	6	54	53
11	6	55	54
12	7	56	55
13	7	57	56
14	8	58	57
15	8	59	58
16	9	60	59
17	10	61	60
18	11	62	61
19	12	63	62
20	13	64	64
21	14	65	65
22	15	66	66
23	16	67	67
24	17	68	68
25	18	69	69
26	19	70	70
27	20	71	71
28	21	72	72
29	22	73	73
30	23	74	74
31	24	75	75
32	25	76	76
33	27	77	77
34	29	78	78
35	31	79	79
36	33	80	81
37	34	81	82
38	35	82	83
39	36	83	84
40	37	84	85
41	38	85	86
42	39	86	87
43	40	87	88
		.	.
		.	.
		127	128